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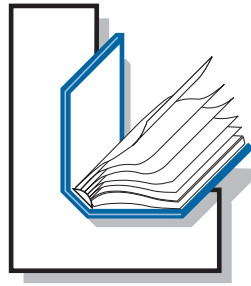


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Delivering More Than Power.™



LEARNING CIRCUIT

May 1998

Educational resources and opportunities at **SRP**

Volume 13 Number 2

Mesa Mountain View continues dominance in Academic Decathlon competitions

The academic "dynasty" of Mesa Mountain View High School continues.

After winning the Arizona Academic Decathlon the eighth time in the past nine years, Mountain View placed third in the United States competition in Providence, Rhode Island, last month. The nine-member Toros team also took first at nationals in the combined Super Quiz event.

Mountain View tallied 50,643 points and trailed only California's El Camino Real (52,131) and Texas' James E. Taylor (51,190) teams in the overall competition. Representatives from 38 states competed in the national event.

Photo courtesy of the Arizona Academic Decathlon Association.



An Academic Dynasty - The 1998 Mesa Mountain View High School Academic Decathlon team won the Arizona competition and placed third in nationals. Team members are, top row from left - Jed Brinton, Troy Saline, Ben Jones, faculty coach Heather Baxter, Sam Buzuleciu and Morgan Larkin; seated from left - Tameson Snyder, Ruth Warner, Narissa Whitelaw and Ketsy Clarkson.

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Arizona Academic Decathlon

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It was the fourth third-place finish in the nationals for Mountain View, which has consistently finished in the top five in 10 national competitions. The Toros have achieved fourth place twice and second place twice in past nationals.

The national competition is similar to the Arizona Academic Decathlon - a rigorous blend of 10 events intended to broaden and challenge the academic abilities of high school students.

Mountain View's Jed Brinton, Ben Jones, Morgan Larkin, Tameson Snyder and Ruth Warner did particularly well in the nationals. Brinton was the highest scoring student, with 9,233 points, and received gold medals in the mathematics, science and 10-event categories. He also garnered a silver

medal in the essay competition and received a \$3,000 scholarship award.

Warner captured gold medals in the art, interview and literature competitions, and silver medals in the social science, Super Quiz and 10-event categories. She received a \$2,000 scholarship.

Larkin won a gold medal in the art competition and bronze medals in the science and 10-event categories. He received a \$1,000 scholarship.

Jones won a gold medal in the speech competition and a bronze medal in the Super Quiz. Snyder garnered silver medals in literature and the Super Quiz.

Mountain View scored 46,739 points in the all-school

competition during the Arizona Academic Decathlon, held March 17-18 at Mesa Community College. The Toros finished with more than 800 points than runner-up Mountain Pointe High School. Stan Seibert of Mountain Pointe was the top scoring student in the state competition, with 8,855 points.

Winners in the small-schools categories included Mogollon, Seton Catholic, St. Johns and Catalina Foothills.

Mesa Mountain View finished first out of a final field of 40 high schools. Schools participating in the final round of the annual state contest emerged from four regional competitions involving a total of 86 high schools.

The Arizona Academic Decathlon was established in 1984 to improve communication skills, promote teamwork and encourage a wide variety of intellectual pursuits though friendly, stimulating competition.

One of the unique aspects of the Academic

Photo courtesy of the Arizona Academic Decathlon Association.



The Academic Decathlon team from St. Johns High School was Region I champion and one of the top teams in the small-school competitions.

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Mayor's Partnership Champion Award winners announced

Five outstanding partnerships that affect the education and lives of Phoenix schoolchildren were the headliners at the eighth annual Mayor's Partnership Champion Awards luncheon April 2 at the Phoenix Civic Plaza.

"The awards recognize and honor the efforts of business and education working hand-in-hand and pooling resources to improve and enrich public education," said Nelson Mitchell, supervisor, SRP Educational Services. Mitchell is a member of the Phoenix Youth and Education Commission, a group established to better coordinate the city's efforts in the areas of youth enrichment and education.

For 1998, the commission cited partnerships that excelled in one of five areas necessary to help a child develop into a productive adult. The areas or "fundamental resources" are mentoring, youth development, healthy

start, marketable skill and community service.

The 1998 Mayor's Partnership Champion Award winners included:

- ♦ **Mentoring** - The Intergenerational Tutoring Program involving Washington School District, Murphy School District, St. Gregory's Elementary School, Phelps Dodge Corporation and the Older Adult Service & Information System. Mentoring partnerships were judged on their ability to provide ongoing relationships with caring adult mentors, tutors and/or coaches.
- ♦ **Youth Development** - Planned Parenthood's "Positive Force Players," available to all schools within Phoenix city limits. Youth development partnerships were judged on their ability to provide access to safe places and structured activities during non-school hours to learn and grow.

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Arizona Academic Decathlon

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Decathlon is that there is a place for almost everybody. Rather than being dominated by straight "A" students, Academic Decathlon teams are a mix of "A," "B," and "C" students.

"Intelligence is important, but the competition is geared to individuals who are team players and who can perform in 'real-time' situations," said Wayne Kirby, SRP Educational Services representative. Kirby serves on the Arizona Academic Decathlon's board of directors.

A typical team is divided into several levels, so that "A" level individuals compete against other teams' "A" level members, and "B" and "C" level team members participate accordingly.

"One of the gratifying aspects of working with the students and the decathlon is to watch underclassmen progress to higher levels of competition as juniors and seniors," Kirby said. "The decathlon helps them mature as people, as well as students."

The highlight of the competition is the Super Quiz Relay, a game-show style competition during which student participants are grilled about various topics. An audience of cheering classmates, parents, family and friends further enlivens the Super Quiz Relay.

The top three finishers in the state Super Quiz Relay were: Mesa Mountain View, first with 4,815 points; Dobson, second with 4,795 points; and Mountain Pointe, third with 4,625 points. ♦

An educated Kirby becomes “history”

SRP Educational Services Representative Wayne Kirby presents an award to a student during a recent Arizona Academic Decathlon ceremony.



Photo courtesy of the Arizona Academic Decathlon Association.

Later this spring, Wayne Kirby of SRP is history. Literally. Kirby, an Educational Services representative for the past six years, will move to SRP's History Services division. He had worked in History Services for a number of years before his stint in Educational Services.

“With 21 years at SRP, I’m sort of a relic myself,” Kirby observed wryly. “I guess I belong with the other historical artifacts.

“Seriously, though, I’ll miss working in Educational Services,” he said. “I loved speaking to students and arranging employee shadowing programs.

“Most of all, I’ll miss the contacts I had with teachers,” he explained. “Professional educators get a fraction of the credit they deserve. They are experts at getting the most from limited and dwindling resources. The teachers I have worked with have my utmost respect.”

Kirby said he has seen Educational Services diversify and expand its range of influence and expertise during his tenure.

“It used to be that we were primarily known for our water and electric safety presentations,” he noted.

SRP Educational Services will continue to offer valuable information and materials on these topics. However, staff no longer will be available for assembly and classroom presentations.

SRP’s new educational outreach agenda will focus more on teacher training and in-service activities, plus specialized programs and events that support energy, water and environmental education.

“Our Web page has really taken off,” Kirby added. “It offers teachers lesson plans for electric-, water- and environmental-based subjects, including science experiments for grades K-12.

“We have a terrific section with parenting information,” he said. “There are links for students, as well as links to other schools’ Web pages. You easily could spend days browsing the SRP site.”

Among other activities, Kirby serves on the Arizona Academic Decathlon’s board of directors. The Arizona Academic Decathlon is a rigorous blend of 10 events

intended to broaden and challenge the academic abilities of high school students. The Arizona competition was established in 1984 to improve communication skills, promote teamwork and encourage a wide variety of intellectual pursuits though friendly, stimulating competition.

During the past several years, Kirby's most popular SRP presentation was "Careers." It was developed to introduce students in grades 7-12 to various careers and occupations in today's workplace.

"At SRP, for example, there are more than 500 job classifications in four general categories - professional, technical, shop and field, and entry level," he explained. "During the presentation, we discussed the typical attributes employers look for in job candidates.

"I stressed the importance of 'life-learning,' the need for sound schooling and how to apply classroom knowledge in the workplace," he added.

In History Services, Kirby will be working with the SRP History Center and Silva House facilities. The History Center is located at SRP's main administrative facility in northwest Tempe, while the Silva House, a renovated turn-of-the-century home, is in downtown Phoenix.

"I've been very fortunate," Kirby said. "Through my work in Educational Services and History Services I've really grown to appreciate what a stake SRP has in the continued development of Central Arizona and to appreciate the remarkable growth of metropolitan Phoenix this century." ♦

Mayor's Partnership Champion Award

Continued from page 3

- ♦ Healthy Start - A partnership involving Price Costco and Tolleson Elementary School. Healthy Start partnerships focused on helping children's health and well being so they start school ready to learn.
- ♦ Marketable Skill - A partnership involving Bank of America and Central High School. These partnerships focused on providing youth with a marketable skill through effective education
- ♦ Community Service - A partnership involving Heard Museum and Clarendon School. Community Service partnerships provided an opportunity for youth to give back through community service.

In addition to the award winners, there was a 1998 Education Partnership Honor Roll. Among the partnerships that were part of the honor roll was SRP and Thomas Pappas School. In September 1994 SRP established a partnership with the school for homeless children. The

primary focus is to provide an in-school mentor program for sixth-, seventh- and eighth-grade students. SRP has provided 40-50 employees each school year to volunteer a minimum of one hour twice per month to work one-on-one with a student.

The mission of the Phoenix Youth and Education Commission is to advise, educate and advocate to and with the Phoenix City Council and the general public regarding education and youth development issues, while supporting programs that have a positive influence on the development of young people and the educational process.

Commission activities during the year included the Phoenix Education Summit, Youth Town Hall, Phoenix Principal for a Day, Outstanding Young Man/Young Woman of the Year, and the Mayor's Partnership Awards. To learn more about these activities, call Phoenix Education Director Deborah Dillon, (602) 495-0518. ♦

SRP Electrician Jeanne Derwin (far left) lets students examine some of the tools of her trade.



Photos by Kevin Kriesel-Coons

Focus on “non-traditional” jobs at SRP’s annual “Take Our Daughters to Work” event in April

About 120 students participated in the sixth annual “Take Our Daughters to Work” day April 23 at SRP’s central administrative facilities. The event was in conjunction with the national effort sponsored by the Ms. Foundation to increase the awareness of career options available to young women in today’s workplace.

The SRP version of “Take Our Daughters to Work”

featured an informational meeting in the morning at the SRP PERA Club, a recreational facility in north Tempe. Students listened to presentations about a variety of “non-traditional” job and career opportunities that were not open to women in the past. The presentations also included various hands-on activities to illustrate the vocations.

In addition to the presentations, employees were encouraged to bring the students to work to provide them with a firsthand workplace experience. The event was designed for children ages nine to 15 years. Employees were welcome to bring nieces, granddaughters, neighbors and/or other young women to the program.

Also in attendance were a group of students from Thomas J. Pappas Regional Education Center. Pappas is a transitional school that serves homeless children in grades K-8. SRP has had a mentoring program with the school since August 1994. ♦



SRP Environmental Laboratory Supervisor Linda Johnson (center) helps some neophyte chemists with an experiment.

Herrera School's "The Sky Is Falling" wins Best of Fair, grand prize at the 1998 Fresh Air Science Fair

A contingent of enterprising first- and second-grade students from Herrera Elementary School received "Best of Fair" and grand prize honors for their project in the 1998 Fresh Air Science Fair at Phoenix College.

The student's entry "The Sky is Falling" was awarded Best of Fair in competition with all projects, and a grand prize in the K-2 grade category. The entry was a creative, bilingual campaign on how to inform people about the pollution problem in Phoenix, based on the children's story "Chicken Little." The project also involved students studying news and public service announcements on air pollution and giving suggestions for improvement.

The Fresh Air Science Fair provides an avenue for students from Phoenix urban-core schools to develop basic environmental research and development projects that could solve the Valley's air pollution problems. The event is a brainchild of the Phoenix Urban Systemic Initiative (USI). Students with Fresh Air Science Fair projects must use mathematics, science and technology to derive solutions. The various projects are categorized by age and grade level of the school groups submitting them. This year the fair drew projects from 45 urban-core schools.

Other winners included:

- ♦ Sunland Elementary fourth graders won a grand prize in the 3-5 grade category for their fuel cell project that used lemons and lemon juice to illustrate the uses of electrochemical energy. The students received assistance from SRP's Transportation Services and Environmental Services employees.
- ♦ Herrera School sixth graders won a grand prize in the 6-8 grade category for their "Greenhouse Effect" project.

- ♦ Bourgade Catholic High School juniors won a grand prize in the 9-12 grade category for their project "Air Pollution - Its Effects on Elastic Rubber Bands."
- ♦ A group of fourth-, fifth- and sixth-graders from Bethune School won "Most Community Participation" with their project "Trees Will Please Everyone."
- ♦ Third- and fourth-graders from Tertulia School won the award for "Most School Participation" for their project, "Hydrogen-Powered Cars."

This year's fair got a boost from a U.S. Environmental Protection Agency grant, provided last fall. The EPA grant was used to fund air quality in-service training and materials for teachers and parents.

SRP is the sole corporate sponsor of the Fresh Air Science Fair and encourages its employees to serve as technical advisors and mentors for student groups. This year, SRP also donated \$8,000 and supplied various in-kind services for the event.

The Phoenix USI provides activities and opportunities designed to reform the teaching of mathematics, science and technology at 77 elementary and eight high schools in the Phoenix urban core. USI programs are found in cities nationwide and are funded by the National Science Foundation. USI's vision is to create a culture for learning and change at member schools so that all students have the skills to function successfully in the coming century.

Other sponsors of the Fresh Air Science Fair include Phoenix College and Valley Metro. To learn more about the Fresh Air Science Fair, call (602) 285-7654. ♦

Come “surf” SRP’s Educational Services Web page

Searching for ideas and advice about science projects, educational resources or parenting?

Remember that SRP’s Web page is a scant few key strokes and mouse clicks within reach, at www.srp.gov.

On SRP’s “Kids, Parents and Teachers” site, K-12 teachers will find extensive information to assist their math and science instruction, including lesson plans and parent-involvement materials.

There also are hyperlinks to many other education-based home pages, both locally and nationally. Links include the Eisenhower National Clearinghouse, Galileo, National Geographic and the U.S. Geological Survey.

“Kids, Parents and Teachers” is a one-stop shopping site for information about SRP’s Educational Services programs and links to other educational sites. It supports SRP’s new educational outreach agenda, which will focus

more on teacher training and in-service activities, plus specialized programs and events that support energy, water and environmental education.

Users can view a list of schools in the Phoenix area that have their own home pages. Children will find learning-based activities and games. All the information can be printed out and used or distributed as needed.

To reach SRP’s “Kids, Parents and Teachers” page from the SRP home page, click on “In Our

Communities,” then “Kids, Parents and Teachers.” Nine categories will be available for perusal, including

- ♦ SRP’s Educational Services
- ♦ Coloring Book
- ♦ K-12 Science Experiments
- ♦ Parenting
- ♦ Grant Information
- ♦ SRP’s Learning Circuit
- ♦ Arizona Schools Report Card
- ♦ Kids Links
- ♦ Arizona Schools Web Pages

Drop in soon, and feel free to send your e-mail comments about SRP’s web page to Educational Service Representative Kathie Shergalis, ktsherga@srp.gov. You can reach other Educational Services employees at the following addresses: Nelson Mitchell: ngmitche@srp.gov; and Darrell Sheppard: dlsheppa@srp.gov ♦



Experience the pleasures of reading, read aloud to your children

With summer just a pool splash away, many children will have plenty of extra time. Parents and relatives would do well to invest that time wisely by reading aloud to their children.

Besides encouraging oral skills and vocabulary development, reading aloud also teaches children to use their imaginations. Reading for even 15 minutes a day will encourage children to want to read, also.

When reading aloud, consider the following:

Why read aloud?

- ♦ It allows children to experience the pleasures of reading.
- ♦ It is an alternative to uninspiring television programs.
- ♦ Children learn new information.
- ♦ Good grammar is modeled.
- ♦ It costs nothing.
- ♦ Children read a broader variety of books than they would choose on their own.
- ♦ Children experience richly textured lives outside their own experiences.
- ♦ Vocabularies are enriched and expanded.
- ♦ The English language is spoken in a manner distinctly different from that heard on television.
- ♦ It is an opportunity to teach values without preaching.
- ♦ It creates a lifetime learner.

When reading aloud, do -

- ♦ Set aside a traditional reading time.
- ♦ Be consistent, read every night.
- ♦ Turn off the television.
- ♦ Vary what you read.
- ♦ Adjust your pace to fit the story.
- ♦ Have fun with the dialogue. Change tone of voice to fit the dialogue.
- ♦ Read more challenging selections once in a while.
- ♦ Allow time to talk afterwards.
- ♦ Read younger selections to older children sometimes.
- ♦ Take turns reading.



When reading aloud, don't -

- ♦ Read something in which you're not interested.
- ♦ Continue reading a selection that is a poor choice.
- ♦ Read above a child's emotional level.
- ♦ Confuse quantity with quality.
- ♦ Read too fast.

Points to ponder

- ♦ If you have to be away from home, record a selection on audio cassette for your child to listen to when you're gone.
- ♦ If you feel uncomfortable reading aloud, practice beforehand. Even professional readers practice!
- ♦ Talk about your own personal reading.
- ♦ Visit your closest public library with your children - regularly.
- ♦ Start reading to your children when they are infants and read throughout their teenage years. Don't stop! One of the biggest mistakes made by parents who have read aloud to their children is to end this activity when their teen-ager enters high school. Parents and children of all ages need the kind of closeness that reading aloud offers. ♦

courtesy of Gayle Smith, Educational Consultant

With imagination and enterprise students engineer cities of the future

by RaMar Orgeron

At Connolly Middle School a hot, new program is lighting a fire under students. It's fun, it's competitive and it's a tremendous skill-builder.

It's called Future City Competition and this is its first year in the Valley.

Future City is literally what students design using

a computer program called Sim City. Then they build a model of the city they designed and, lastly, they write an essay that contains the research and information that served as the basis for their city.

Helping Connolly students with the project was SRP's Michael Voda, principal civil engineer,

Electric System Engineering. Voda volunteered to help during the three-month development process and he partnered with Connolly science teacher, Jacqueline Knochel, who was their sponsor.

"We worked two afternoons a week and students stayed after

school, so it was a major commitment for them, too," Voda said.

In a joint effort, Voda and Knochel mentored four three-student teams, working closely to plan and organize the teams' projects.

"Each team built a city, working independently and coming up with its own



Photo by Mark Durben

SRP's Michael Voda, principal civil engineer, Electric System Engineering worked with Connolly Middle School students to design and build cities for Future City Competition.

ideas,” Voda said. “I tried to maintain a balance of steering them in the right direction and letting them do it themselves.”

Voda said it was no surprise that the students who were computer-literate fared well with the computer modeling.

“They learned different tricks with the software and caught on to how to build cities using the Sim City program,” he said.

“They liked building the modeling, too, once they got into it,” he added.

The young engineers and architects were less enthralled with the written portion of the project - the essay. Voda said that in the future he would place more emphasis on the essay, which requires considerable time and research.

“We spent about two months on the computer and a month on the model,” he noted.

Models were required to be constructed from as

many recyclable materials as possible. So students used toothpicks, baling wire, pipe cleaners, plastic jugs and cardboard, among other things, to construct their cities. Models also were required to have at least one movable part.

Connolly’s students teams participated in regional competition Jan. 17.

Future City Competition is sponsored by National Engineers Week, an organization comprising professional engineering associations which promote engineering as a career option for students. It is a national competition that begins regionally; this is the first year that Phoenix participated as a region. ♦

(Editor’s note: For more information about Future City Competition visit www.eweek.org.)

Future Cities

Juniper DS: A city built on Io, one of the moons of Jupiter. This city was built inside two domes constructed from coat hangers. Small motors and propellers were used to model air circulation and treatment. (Juniper, not Jupiter, is what the students named their city.)

Bayview: An island city with: a rotating stadium made using a Lazy Susan and a plastic pie-tin cover. (The stadium would rotate as the earth rotates so event-goers would not have the sun in their eyes.)

Arkvamm-3: A city with a constructed wetlands for natural sewage treatment. An automobile windshield washer pump was used as a circulating pump so water actually circulated through the constructed wetlands. Arkvamm won the Outstanding Team Effort Award from the Professional Military Engineering Society.

Sparta: Inspired by an ancient Greek city, Sparta featured a stadium with a clamshell roof that opened and closed. A butter cookie tin was the stadium and the clamshell roof was devised from two pieces of heavy paper.

Teachers participate in SRP's Business Energy Audit program

This summer, four East Valley elementary and high school teachers will be visiting about 250 SRP business customers. Rather than looking for new jobs, they'll be helping these businesses find ways to save energy costs.

The teachers will be as energy auditors in SRP's Business Energy Audit program. They are part of trained staff available to make an on-site visit to collect information about the various mechanical systems and energy loads of SRP business customers' facilities.

The participants are Jason Knust, Scott Pike, Jim Sherman and Joy Stone. Stone teaches at Jordan Elementary, while the others teach at Chandler High School. They all were selected for their math and science backgrounds, as well as their ability to work with people. The teachers will undergo comprehensive job training by SRP staff before going into the field to assist business customers.

SRP's Business Energy Audit program is designed exclusively for medium-sized businesses with a peak summer demand of less than 100 kilowatts. The audit provides a comprehensive analysis of how a business uses its energy and how a business can reduce electricity use through a number of possible modifications.

After visiting a business facility and gathering data, the SRP business energy auditor enters the audit information into a sophisticated computer program back at SRP. The computer software creates an energy model of each facility being audited that helps the business customer evaluate a building's energy systems, such as cooling, heating, lighting and plug loads.

SRP's energy professionals analyze the results and evaluate the audit, and then generate a report for the customer. The report will tell SRP customers where their energy dollars are going and how to save money on future energy bills.

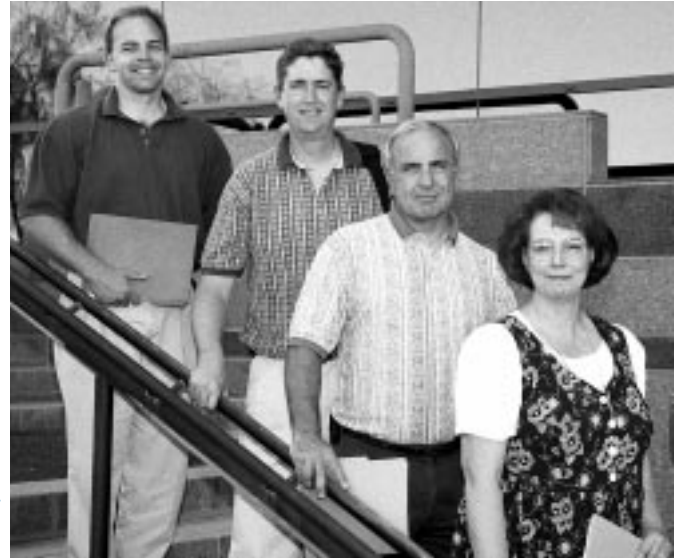


Photo by James Eastwood

Four East Valley teachers will be working as SRP business energy auditors this summer. They are, from left, Jason Knust, Scott Pike, Jim Sherman and Joy Stone.

The audit also provides recommendations that customers can use to help their businesses make better use of energy. Business customers learn how much they can save when they make some or all of the recommended changes. Many companies reduce their energy bills by 5 to 15 percent.

"Everyone benefits," said Darrell Sheppard, SRP Educational Services representative. "The program is a perfect fit for us, the teachers and our customers."

Don Boyd, a senior engineer in SRP's Product Development department, agreed.

"SRP benefits by using articulate professionals to work with customers," he explained. "In turn, customers benefit by participating in a program through which they discover where their energy dollars are going, how to save money on future energy bills and how their businesses could make better use of energy. Meanwhile, the teachers learn a new skill and receive summer employment." ♦



SRP develops comprehensive consumer education program about electric utility competition

While various groups debate how electric utility industry deregulation should occur in Arizona, SRP has formed a Consumer Education Advisory Panel to develop a comprehensive consumer education program on competition.

The panel comprises 20 representatives of community-based organizations. Members include representatives from key constituencies: low-income, seniors, minorities, small and medium-sized businesses, residential, and environmental.

The panel was formed in response to a requirement in legislation passed by the Arizona House of Representatives, now pending in the Arizona Senate. The Electric Power Competition Act, House Bill 2663, would require public utilities such as SRP to open 20 percent of their electric load to competition by year's end. SRP's entire load would then be open to competition sometime in the year 2000 - about two years sooner than the Arizona Corporation Commission's current plan.

Among elements of HB 2663 are requirements that utilities conduct public education programs to school customers about their options. SRP's program will include elements that educate customers about the changes in the electric utility industry and will provide customers with

accurate and unbiased information so they may make informed choices.

The panel will help SRP management develop and implement this program. The panel convened its introductory meeting in March and met again in April. Future meetings are open to the public, for more information, call (602) 236-2547.

SRP is committed to helping consumers obtain the information they need about changes in the electric industry. Also available to Valley civic groups and organizations is 45-minute presentation on electric deregulation by the SRP Speakers Bureau.

The free presentation helps explain the complexities of deregulation and competition, addresses SRP's involvement in industry deregulation, outlines the timetable for competition in Arizona and examines competition impacts for customers and for communities. For more information about the presentation, call (602) 236-2401.

Editor's note: For more information about electric utility competition, see the simple glossary of electric utility terms, pages 14-15. ♦

Learning the lexicon: A primer of electric utility industry terms

Confused by some of the jargon used in discussing electric industry competition and deregulation in Arizona? As a service to its readers, **Learning Circuit** presents these definitions of some basic terms electric utility industry terms.

Arizona Corporation Commission (ACC) - the ACC was created by the Arizona Constitution to regulate public service corporations. Among its duties, the ACC regulates investor-owned and cooperative electric utilities. This regulation includes approving retail rates.

Competition (also known as retail competition) - the concept under which multiple sellers of electric power and services can sell directly to end-use customers. (See also Direct access)

Cooperative (Co-op) - a non-profit, customer-owned electric utility responsible for distributing power, usually to rural areas. Some co-ops own generation and transmission, but most purchase electricity in the form of federal preference power or from the wholesale market. Most co-ops were set up under the Rural Electrification Act of 1934, which made electric power available to rural customers who may not have received service because they were more costly to serve than urban-area customers.

Deregulation - the relaxation or elimination of regulation from a previously regulated industry or sector.

Direct access - an arrangement through which end-use customers can purchase commodity electricity directly from any supplier in the competitive bulk-power market, rather than from a local distribution utility. Also known as “customer choice.”

Distribution - the process of delivering electricity from substations to customers. The distribution system “steps down” power from higher-voltage transmission lines to a level that can be used in homes and businesses.

Energy Policy Act of 1992 (EPAct) - This law addresses a wide variety of energy issues and creates a new class of power generators. In general, it makes entry into generation much easier for all. It also calls for open transmission of wholesale power and wholesale power wheeling.

Federal Energy Regulatory Commission (FERC) - FERC regulates the price, terms and conditions of wholesale power sold in interstate commerce and regulates the price, terms and conditions of all transmission services. FERC is the federal counterpart to state utility regulatory commissions such as the ACC.

Generation - the actual production of electricity, usually at power plants.

Grid - the transmission network through which electricity moves from suppliers to customers.

Independent Power Producer (IPP) - an entity that owns facilities to generate electric power for sale to utilities and customers, but does not have a service territory or an obligation to serve customers.

Investor-owned utility (IOU) - a utility operated by a public corporation in which ownership shares are held by individual investors who supply the capital in expectation of earnings on their investments.

Municipal utility (muni) - a utility owned and operated by a municipal government or a municipal-type governing board. In most cases, municipal utility rates are set either by the municipal administration or by a local utility board or commission. SRP's power business is considered a municipal utility.

Obligation to serve - traditionally, in a regulated market, utilities were required to serve everyone in their service territory in exchange for exclusive rights to the territory. Utilities also had to provide adequate service, and to render safe, efficient and non-discriminatory service.

Open access - a term generally applied to access to the transmission system for all generators and wholesale customers. Also refers to the use of a utility's transmission and distribution facilities on a common-carrier basis at cost-based rates.

Power marketers - sales agents for electric power; the middlemen between sellers and buyers. They typically are not part of a utility. Unlike brokers, power marketers take title to all power they transact.

Power marketing agencies (PMAs) - agencies of the U.S. Department of Energy that market electric power produced at federal water projects or dams. By law, PMAs sell wholesale power at cost to legally stipulated "preference" customers such as municipal utilities and coops.

Preference power - power generated by federally owned facilities. Reclamation law provides that public entities have preference in the allocation of this power, which typically is cheaper than other sources.

Public power - utilities that are locally owned and locally controlled, such as cooperatives and municipal utilities. In some limited circumstances, state-level regulation applies. These utilities often have access to power from federal hydroelectric projects and can obtain low interest loans, and are exempt from income and other federal and state taxes. These factors contribute to lower financing costs for plant and equipment.

Regulatory compact - for decades, states and cities have regulated electric utilities through a regulatory compact, through which utilities are granted service territories where they have exclusive rights to serve retail customers. In return, utilities must ensure there are sufficient generation, transmission and distribution facilities/systems to serve all present and future customers in the territory.

Reliability - the degree to which electric power is made available to those who need it. Reliability may be measured

by the frequency, duration and magnitude of adverse effects on consumer services.

Restructuring - the changes being considered in the set of regulatory and statutory policies governing electric utilities in the U.S.

Retail customers - customers, including residences and businesses, who themselves use the electricity that they purchase; also known as "end-use customers."

Retail market - a market in which electricity and other energy services are sold directly to the end-use customer.

Retail wheeling - the process of moving electric power from a point of generation across one or more utility-owned transmission and distribution systems to a retail customer. (*see Direct access*)

Service territory - a geographic area where a regulated utility provides electric service to all present and future customers in the territory (*see Regulatory compact*)

Stranded costs - costs incurred by utilities to serve their customers with the understanding that state regulatory commissions would allow such costs to be recovered through electric rates. These costs may not be recoverable under retail competition because market forces can keep prices down.

Tariff - a price or schedule of prices; also, contractual terms and conditions for a defined service or set of services.

Transmission - the process that transports electric energy in bulk form, usually at high voltages, from a source of supply to a distribution system.

Unbundling - the separating of the total process of electric power service, such as generation, transmission, distribution and metering, into its component parts for the purpose of separate pricing or service offerings.

Wheeling - the transmission of electricity by an entity that does not own or directly use the power it is transmitting.

Think “safety first” while enjoying water recreation

Summer vacation means another season of water fun. Whether it is swimming, fishing, boating or water skiing, Arizonans enjoy water sports. To ensure future, safe enjoyment of recreational activities involving water, everybody should take the time to learn about water safety. SRP Educational Services can provide you with materials and a video; just call (602) 236-2401.

At the ocean, lake, river or pool, always remember the following:

The 10 rules for water safety

1. Know how to swim - take lessons.
2. Always swim in safe places.
3. Always swim with other people.
4. Learn to help.
5. Swim away from diving boards and slides.
6. If you are overheated, enter the water slowly.
7. Don't depend on floating toys.
8. Stay out of the water during thunderstorms.
9. Walk, don't run, on pool decks.
10. Obey the lifeguard.



LEARNING CIRCUIT

SRP

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This newsletter, produced by Public & Communications Services, is intended to inform Arizona's education community about instructional materials, programs and opportunities available at SRP. For additional information, please contact Nelson Mitchell, 236-2489.

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